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Games that retain

A developer and expert perspective on improving retention in mobile games

In partnership with The Behavioural Architects

February 2022

About the report

We decided to speak to retention experts and successful mobile titles, to understand and learn how to improve retention in games.

We partnered with **The Behavioural Architects**, a research agency with extensive experience understanding and influencing behaviour.

We interviewed **13 mobile games** with diverse backgrounds, incl. genre, title seniority and monetization models
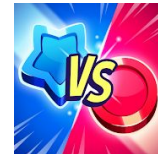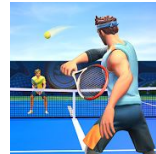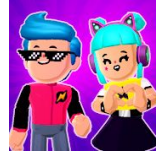
We interviewed **5 leading experts,** incl. University professors and industry practitioners.

We asked them how to integrate retention into game strategy, what are the best practices and tactics, and how to test and innovate around retention.

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12 mobile games titles:

And 5 leading industry experts:

Peter Fader
Professor at Wharton
and Author

Hyeyon Kwon
Co-Founder and CEO
at TENTUPLAY

Zachary Anderson
Chief Data & Analytics Offer at Nat West
ex- Chief Analytics Officer at EA

Sunil Thomas
Co-Founder and CEO
at Clevertap

Peggy Anne Salz
Lead Analyst and Co-founder
at MobileGroove

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Habit creation lies at the heart of *every* successful retention strategy

Many successful studios are already aware of and using the habit loop to drive retention for their titles:

Reward: There must be a **benefit** that drives the **'itch' or desire** to repeat the behavior

Motivation: Tailor the user experience by motivations

Habits are the holy grail of retention

Ability: The action must be **easy enough** with **minimal friction or effort**

Trigger: Without the **right cue**, a behavior will not happen

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Overall, the sooner a retention strategy is formed and implemented, the better

Retention targets and goals are set pre game development

Pre-launch benchmarks and learnings can come from prequels or other titles with comparable mechanics

Key game play features are designed with retention in mind

Roadmaps are created to keep players engaged throughout gameplay

But there are always room to impact retention post-launch:

Look to following areas for improvement:

🐞 Ensuring technical quality

🙂 Optimizing first time users' experiences and tutorials

📊 Actively monitoring and managing the progression curve

🎮 Ongoing improvement of metagame and core game experience,

alongside introducing new features

Learnings from developers:

Archero have established a **cadence pre-launch** and defined milestones at which players get introduced to more complex features to ensure they maximize retention.

Head Ball 2, by **taking key lessons from their prequel**, set out to ensure they first build player skill and achieve high levels of D1-3 retention before introducing more any of the more complex features or offering IAPs to players.

Tacticool, developed by Panzerdog studio (MY.GAMES), continued their focus on **improving retention post-launch** by being constantly on the lookout for opportunities to tweak their strategy by:

- ✓ Looking at ways to further smoothen initial experiences e.g. faster game loading, easier tutorial
- ✓ Rebalancing the difficulty curve to ensure players win their first matches
- ✓ Keeping the gameplay fresh for mature players (e.g. introducing new social features, offering a new map or weapon every 2 months)

Our research has uncovered 9 characteristics of games that retain:

01
They balance short-term monetization with long-term retention

02
They go beyond just time based retention metrics

03
They set up players for success

04
They actively manage player progression

05
They know what journey their MVPs take, so they can nudge others on it

06
They are not afraid to ask what their players want and why

07
They take variable rewards to the next level

08
They flex strategy across player lifecycle and game maturity

09
They test continuously

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01 | They balance short-term monetization with long-term retention

Focusing on longer-term retention enables more sustainable monetization

Establish the optimal level of starting 'currency': players need a sufficient level of game assets in early gameplay to build their skills and progress.

Focus only on those retention features & metrics that impact LTV: ensure actions that increase retention don't negatively impact monetization and vice versa.

Find the unique ads sweet spot for retention and monetization: experiment with different frequencies, duration and placements of ads, both interstitial and rewarded.

Predictive LTV models can help you forecast retention & revenue

There a multiple ways of calculating LTV and models can get very complex, but at its core LTV is a relatively basic equation:

Lifetime
(average user engagement, retention rates)

$\times$

Value
(average spend, average number of transactions, monetary value)

Consider 3 important behavioral metrics when choosing the historical player data to incorporate into a pLTV model:

Behaviours patterns of players with highest LTV

To project how likely a new player with similar patterns will have a similar LTV

The play frequency of players with highest LTV

e.g. 3x a week, 5x a week

Value they bring across all monetization streams:

IAPs, subscriptions, ads revenue, advocacy/WOM

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02 | They go beyond just time based retention metrics

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Going beyond just time-based metrics, unlocks a new level of actionability for your game

Use behavioral data (e.g. levels completed, matches won, trophies or other rewards acquired, social interactions made) **to set retention thresholds -** the frequency and the amount a player has to perform these actions to be better retained.

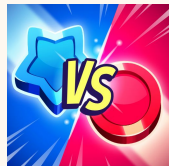Use retention thresholds as core metrics and **guide new player cohorts to achieve them.**

Measure your retention one level deeper - look at:

- High level socio-demographic differences (age, geo)
- Player behavior in the context of specific features or mechanics
- Whether players spend, how engaged they are, how long they have been playing for

Learnings from developers:

Match Masters analyzed the frequency a player needed to complete core game actions (e.g. level reached, trophies unlocked, XP collected) that correlated with better retention. As a result, they set **retention thresholds** that they try to encourage new players across by offering free perks or gifts.

Hill Climb Racing 2 track **player metrics within an important mechanic** for monetization. This helped determine how engaged a player was with this key mechanic and therefore how many interstitial ads should be served (fewer to more engaged players).

03 | They set up players for success

First time user experiences set the tone for player engagement and retention down the line

⭐ Be sure to provide **highly engaging rewards** as they first progress through each step of the core game loop, but keep them as well **excited for what's more to come**.

🔄 **Incentivize players to repeat the core loop** to build sufficient skill: repetition is pivotal to building habits and routines for the player to feel invested in the game.

🎛 Find the **right balance of initial wins and losses**: set an appropriate difficulty curve for new players, through analyzing and testing levels of player effort and reward.

🔍 Keep on **monitoring later in the game** to ensure player effort and reward don't become unbalanced as they progress through the game.

Learnings from developers:

Tacticool boosted D1 retention by **ensuring new players win their first match** by matching them with bots. These bot battles safeguarded them against the disappointment of an early defeat.

Left to Survive highlight **early on the most exciting parts of the rich game narrative**. As some of the more visually exciting maps are only unlocked in later gameplay, they **showcase these locations in early gameplay**. They also introduced a **harder opponent** in the first few battles to deliver a more immediate feeling of **challenge and accomplishment.**

Head Ball 2 knew that if a player completed at least 8-10 matches on D1-3 they were more likely to be retained in the long-term. The team used interventions like **free items and boosters to ensure new players reached that threshold**. After that, they could allow players to progress to more complex features (e.g. tournaments and leagues), without the fear of them churning due to a lack of sufficient experience.

Learnings from developers:
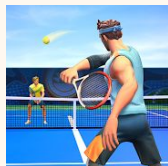
Tennis Clash tested to **find the player sweet spot between playing against bots and real players** in early matches to ensure sufficient challenge levels for players.

Kitten Match give players **boosters and items to help them overcome difficult levels** and encourage them to continue. If a player repeatedly attempts a level and fails multiple times, they are given items to help them pass the level e.g. new combos, bows, rockets, cat balls etc.

Hill Climb Racing 2 developed **'soft nudges'** (e.g. providing track profiles with features of vehicles that do well on that particular track) to guide players to use features and therefore to greater success, without undermining their autonomy.

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04 | They actively manage player progression

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Progression keeps players engaged and willing to invest time and effort

At the beginning,
it can be motivating to see what players could accomplish if they play the game over time, as long as this feels achievable.

Ongoing,
carefully managing the progression curve and cadence of goals a is key: they can't feel out of reach, but neither can they be too easy.

In later gameplay,
players still need to feel that they are still growing and progressing even if they are very familiar with the core gameplay.

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Developers can manage player progression in several ways:

Give players a clear line of sight to what they can achieve: Look for ways to visually showcase key milestones and features that will encourage them to keep on playing.

As it can take time for players to achieve the next 'big' goal, **offer intermediate and 'chunked' goals** to sustain the feeling of momentum and progression.

Add additional retention hooks to gameplay with a **creative and engaging narrative,** that can increase the desire to progress to see what happens next.

A creative and engaging narrative can add additional hooks to gameplay and can give game features additional meaning (e.g. character backstories).

Learnings from developers:

Archero's unique gameplay had no single level that was the same as the next, creating highly varied and engaging play sessions. The team **packaged 'stages' of the game play (game levels) into discrete chapters** - completing a chapter acted as a goal for players to aim for in single play session.

Hills of Steel built a **simple reward calendar to provide a sense of progression** outside the core loop and encourage players to return each day. This worked both **as an appointment mechanic** to keep players returning but also excited them to progress to the next reward.

Tacticool took learnings from how TV series create lots of **intrigue and teasers** at the end of episode. They want their players to feel the same way when **anticipating new content.**

05 | They know what journey their MVPs take, so they can nudge others on it
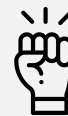
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Who are MVPs?

Most Valuable Players (MVPs) are those players that have truly connected with the game and show the highest level of retention and monetization (or highest LTV).
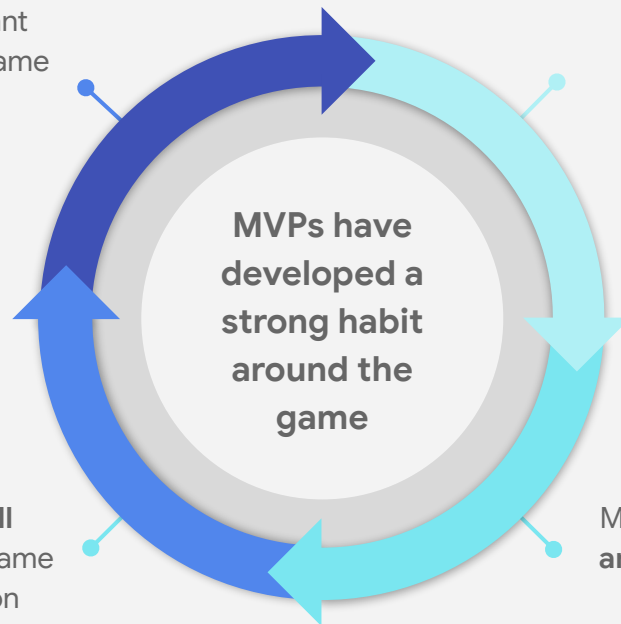

Reward:
MVPs get a significant **reward** from every game session

Motivation:
MVPs are highly **motivated** by the proposition of the game

MVPs have developed a strong habit around the game

Ability:
MVPs have the **skill (ability)** to play the game with minimal friction

Trigger:
MVPs have a **regular and frequent** repeat play

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By understanding which path MVPs take, you can nudge other players on to that journey

Analyze the behaviors that led to the creation of an MVP, e.g.

- What and how many actions do they take

- In what sequence they take actions

- With which features they interact most

- How long their first and following sessions last

Create pathways to transform new cohorts into MVPs

- Use booster and rewards to build desired behaviour

- Leverage onboarding and seasonal events

- Nudge players towards more retentive features, loops and content at the right order, but balance with sufficient player autonomy

Learnings from developers:

Head Ball 2 analyzed the behaviors of MVPs to **form retention benchmarks** to assess how retained other players were. To keep new players on track to become future MVPs, they provided **rewards and boosters (e.g. more match tickets)** to encourage players to move towards the benchmark.

Hill Climb Racing 2 selected behavioral metrics to track along specific time periods to understand if players are on track to become an MVP. They prompt new players to behave in similar ways, through **rewards or nudging them towards known retentive features** (e.g. social features, seasonal events).
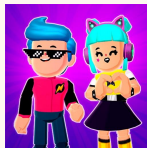
PK XD understood that the **more points of social connection** a player had with the game they were more likely to be retained. They **cross-incentivized new players** to engage with those game systems e.g. making creator content highly visible in a players dashboard or prompting players to add friends.

06 | They are not afraid to ask what their players want and why

Understanding and fulfilling player motivations can further boost your retention

Use player feedback to fine tune new feature development. When considering introducing a new feature, start with a hypothesis around what player need it addresses.

Deep dive into motivations behind retentive feature usage. Research what aspects of those features are in particular motivating and apply insights to communications / future feature development.

Prioritize in-depth understanding of your MVPs. Ensure you reach out to your most retained players and understand their needs and views on certain features for your product roadmap

Learnings from developers:

Episode uses player feedback during the development of a new features to ensure they align with player motivations and increase the likelihood of them being well received by players.

- ✓ Reach out players to explore new feature idea
- ✓ Keep your mind open to player needs and listen to their feedback
- ✓ Surveys are a quick and agile way to check if you're is on the right track to fulfil player motivations

Tacticool uncovered what was truly motivating about their clan feature so that they could continue to optimize clans and acquire other like minded players.

- ✓ Deep dive into features that correlate with the highest retention
- ✓ Prepare actions if your hypothesis is proved both right or wrong
- ✓ Leverage the insights in both product and communications to acquire like minded players

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Use a variety of player feedback sources
to eliminate bias and ensure that you are covering your full player base

Social listening on channels / forums / groups

Simple & quick in game polls

Longer and targeted in-app surveys

Questions during live streams

Analysis of ratings and reviews
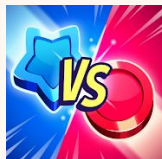
User testing, incl. play-along sessions

In-depth in person interviews

Dedicated sessions with super testers

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Learnings from developers:

Match Masters mixes **qual and quant research** for best results. To complement the statistics, they asked players to record their screens during gameplay sessions and described out loud how they felt e.g. what grabs their attention, motivates them to continue and what causes them to stop.

✓ Don't just rely on surveys to get feedback

✓ Getting 'in the moment' feedback helps to get good quality insight (before players start to 'rationalize' their thoughts)

Kitten Match leverages **customer service tickets** as a feedback loop for current and new features. They follow-up on issues through a more in-depth feedback form and use surveys to get feedback on other game features.

✓ Look to all possible sources of player insight

✓ Follow up to ensure you truly understand the issue at hand

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Combine behavioral data and direct feedback to offer experiences based on true motivations:

Start by looking to behavioral data

Use behavioral data to Identify key habits and playing styles including:

- **Recency & frequency**

- **Actions** in the game (e.g. constantly playing within the same map)

- **Features** they engage with e.g. how they collect and use items

Then, validate with research and testing

Build hypotheses with behavioral data to **test via research** e.g. player surveys or interviews.

Use testing to understand what options and offers are most motivating to each group, and which **correlate most highly with retention.**

Offer tailored experiences based on the insights

Tailor **hints, offers and gameplay** options e.g.

- For players stuck in a 'comfort zone', offer them a bonus to reduce the risk of trying something new,

- For 'collectors', ensure they can access new characters or items on a regular basis.

Progress to more complex segmentations

Continually **refine the segments** e.g. using AI and machine learning tools.

Ensure you evolve segments over time, **as players move to different motivations and need states.**

Personalize the experience to **individual** player needs and preferences.

07 | They take variable rewards to the next level

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Variable rewards are a way of further solidifying and building players habits around the game

Keep reward parameters moving

Frequency: Change how often you reward players. Don't always reward them for the same action.

Recency: Experiment with the gaps left between rewards e.g. bunching together or creating a reward hiatus

Value: Adjust the level of value given for the same action e.g. unlocking rewards at different rates.

Uniqueness: Create truly varied and distinctive rewards by making them unique and one of a kind.

Leverage different reward types

Self: Give players a sense of personal gratification through mastery and accomplishment.

Tribe: Create a sense of connectedness with others, or create social currency e.g. honor points.

Hunt: Build a sense of chase and anticipation as players get closer to unlocking a reward. The pursuit of the reward can be reward in and of itself.

Make rewards relevant to players

Exclusive: Create even more delight with exclusive rewards for particular actions or player groups.

Interactive: Give players a sense of autonomy and choice over the reward by making it interactive.

Personalized: Tailor rewards to previous behaviours and preferences.

Learnings from developers:

Archero ensured that gameplay always felt unexpected by making each session **unique.** They created unique combinations of player actions required to complete a level to delivery new rewards each time
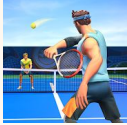
Tennis Clash made events and competitions feel more **unique** by connecting them to the events happening in real world throughout the year (e.g. Christmas, Tennis Open Championships).

Hills of Steel used calendars to provide variation in the **unique** of rewards. They built a reward calendar where rewards were laid out each day, getting progressively better as players built up a streak.

PK XD personalized rewards to in game player preferences. Customization is targeted according to player motivations established from previous behaviour and helps players to further invest in their character and build their identity in the game.

08 | They flex strategy across player lifecycle and game maturity

An effective retention strategy evolves over time to reflect changing player needs

1. Short term

Make it easy to onboard and ensure players master core game play - finding it rewarding as well as challenging

For example:

- Align UA creative with gameplay
- Optimize onboarding tutorial
- Easy personalization (e.g. names and icons and characters)
- Provide reward from first play session (e.g, win first game).
- Ensure players feel challenged to play more (e.g. balancing early wins with losses and blockers)

2. Mid term

Create more complex gameplay features - setting goals, creating narratives and introducing competitive elements

For example:

- Story mode with long term progression milestones
- Mini-goals for regular rewards (e.g. daily challenge)
- More advanced customization
- Competitive elements (e.g. tournaments and leagues)
- PvP mode; introducing clan features

3. Long term

Put emphasis on evolving content and further driving players toward social and p2p aspects of gameplay where relevant.

For example:

- Updated levels and features (e.g. new maps); character upgrades
- Highlighting ability to connect through social media
- Deepening clan connections (e.g. (e.g. ability to share tips)
- Limited time content and events (e.g. tournaments)

Learnings from developers:

Tacticool developed a roadmap of different retention tactics at relevant points across the game lifecycle which all positively impacted retention metrics.

Short term (D0-7)	Mid term (D8-30)	Long term (D30+)
Optimized early interactions: faster game loading and an easier tutorial led to 5-6% D1 increase. **Rebalanced the difficulty curve:** offline play against bots to ensure player wins first match resulted in 2-3% D1 increase.	Created a **greater sense of goals that could be achieved**, by giving sight of next 5 levels and goals. **Introduced their clan feature** which they know deepens engagement and motivates continued use.	**Continued to develop and freshen game play for mature players**: players know every 2-months there will be a new map or game play mode. **Developed and expanded social features** (e.g. enabling people in clans to share secrets, tips and tricks).

TIP: These are Tacticool definitions of retention periods**.** Short, medium and long term timeframes will differ depending on game type but the actions taken at these stages are often consistent across different genres

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09 | They test continuously

When designing and executing tests, remember:

♥ **Put player insight at the heart of every test:** Build hypotheses using based on past data to maximize the chances of success.

⇄ **A/B testing may not provide the answer:** so be willing to make a change and monitor it over time.

📊 Ensure you monitor the **effect on both retention *and* monetization,** short- and long-term.

‹··› **Think long term**; tactics may take time to have an effect, allow enough time for statistical significance.

☺ **Fail well**; If an idea doesn't cut it, discard it, but make sure to learn from what went wrong.

9 opportunities for improving retention in your title

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Thank You.

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